

Patent Claims
as amended May 9, 2005

1. Tripod head (2) with a stator (100) and a rotor (20), which is rotatable around a tilt axis (N) in relation to the stator (100), as well as a compensating device for compensation of a weight moment arising during a tilt movement of the rotor (20), said device having an energy storage device (7), which exerts a restoring moment on the rotor (20) during the tilt movement,

wherein the compensating device has an auxiliary device (30, 21, 31), which brings about the transmission of the rotational movement from the rotor (20) to the energy storage device (7) and thus also influences the restoring moment exerted on the rotor (20) by means of the energy storage device (7), and which has a shaft (30) likewise pivoted around an axis (R) in relation to the stator (100) and means (21, 31) for transmitting the rotational movement of the rotor (20) to the shaft (30) with the result that during the tilt movement the restoring moment exerted on the rotor (20) by means of the energy storage device (7) is influenced by the rotation of the shaft (30) around its axis (R), and

wherein the auxiliary device (30, 21, 31) has a roll contact gear (21, 31) which is formed by a roll contact area (21) of the rotor (20) and a roll contact area (31) of the auxiliary device (30, 21, 31) whereby the shape of the cross-section of these roll contact areas (21, 31) is optimized such that the restoring moment changes essentially sinusoidally with the tilt angle.

2. Tripod head (2) according to one of the preceding claims, in which the energy storage device (7) has at least one adjustable outer ring (100) lockable with the stator (100) as well as at least one inner ring (9) concentric thereto locked with the auxiliary device (30, 21, 31) and at least one spring element (11) disposed between.

3. Tripod head (2) according to claim 2, in which the at least one spring element (11) is a torsion spring.

4. Tripod head (2) according to claim 2, in which the spring element (11) between inner ring (9) and outer ring (10) is a spiral spring.

5. Tripod head (2) according to claim 3, in which the spring element (11) between inner ring (9) and outer ring (10) is a rubber ring.

6. Tripod head (2) according to one of the preceding claims, in which the energy storage device (7) is divided into a plurality of independent units (8), which can optionally be inserted either singly or in combination with each other in active engagement between the stator (100) and the auxiliary device (30, 21, 31).
7. Tripod head (2) according to one of claims 1 to 6, in which the auxiliary device (30, 21, 31) has a step-down and/or step-up gear (21, 31) to transmit the rotation of the rotor (20) to the shaft (30).
8. Tripod head (2) according to one of the preceding claims, in which at least one band (41, 42) is provided to transmit the rotation of the rotor (20) to the auxiliary device (30, 21, 31), said band being attached at one end on the rotor (20) and at the other end on the auxiliary device (30, 21, 31) (at 43, 44) and running around at least one area of the rotor (20) and the auxiliary device (30, 21, 31).
9. Tripod head (2) according to claim 8, in which the at least one band (41, 42) in combination with the roll contact gear (21, 31) is provided to transmit the rotation of the rotor (20) to the auxiliary device (30, 21, 31).
10. Tripod head (2) according to one of claims 8 and 9, in which two bands (41, 42) are provided to transmit the rotation of the rotor (20) to the auxiliary device (30, 21, 31) in one tilt direction in each case.
11. Tripod head (2) according to one of the preceding claims, in which a device (6) for damping the tilt movement is provided in addition.